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#### Original Publication Information

Foster, Benjamin P. and Trimbak Shastri. "Material Internal Control Weaknesses And Earnings Management In The Post-SOX Environment." 2013. *Journal of Applied Business Research* 29(1): 183-194.  
<https://doi.org/10.19030/jabr.v29i1.7566>

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# Material Internal Control Weaknesses And Earnings Management In The Post-SOX Environment

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## ABSTRACT

*Prior studies found that companies with internal control deficiencies incorporate abnormal accounting accruals into their financial statements. However, these studies did not consider the materiality of abnormal accruals. Abnormal accruals should be within materiality when financial statements receive clean audit opinions. When material internal control weaknesses (MICW) exist, to compensate for additional risk, auditors should apply more audit effort to gain the quantity and quality of evidence necessary to obtain a reasonable degree of assurance to support their audit reports. We find evidence of this because audit fees are significantly higher for MICW companies than those for effective internal controls (EIC) companies in our sample. Accordingly, financial statements receiving clean audit opinions should not contain material abnormal accruals irrespective of whether controls are effective EIC or ineffective MICW. To examine this issue, we use post-SOX data to estimate abnormal accruals using a revenue-based accrual model for a matched sample of companies with clean audit opinions on their financial statements: one-half EIC and the other half with MICW. Then, we establish material abnormal revenue accruals (MARA), which is the difference between estimated abnormal revenue accruals and a quantitative materiality based on assets. Finally, we compare MARA between EIC and MICW companies. We find no significant difference in MARA between EIC and MICW companies. We provide a summary of important findings in Table 3, and conclude with suggestions to further improve audit and financial reporting quality.*

**Keywords:** Material Internal Control Weakness; Earnings Management; Internal Control Deficiencies

## I. INTRODUCTION

Many papers have been written regarding earnings management, which involves management's intervention to misstate reported earnings through various means for gainful purpose. Some recent academic studies indicate that companies with internal control deficiencies are likely to incorporate abnormal accounting accruals into their financial statements (Ashbaugh-Skaife et al., 2008; and Doyle et al., 2007). Former SEC Chairman, Arthur Levitt, Jr., indicated (JofA 1998) various approaches are used by enterprises to misstate earnings, including: abuse of materiality, accelerating revenue recognition, use of "cookie-jar reserves", and "big bath charges". The purpose of this study is to test, for companies that receive unqualified (clean) audit opinions on their financial statements, whether earnings management after the adoption of PCAOB standards is more prevalent in companies with material internal control weaknesses (MICW) than in companies that have effective internal controls (EIC). For this test, we examined financial data and audit fees of a sample of public companies.

According to a 2002-GAO report on *Financial Statement Restatement*, 20 percent of SEC's enforcement cases in the late 1990s to early 2000s were for violations resulting from financial reporting and accounting practices (GAO 2002). Further, other matters that enabled management to manage earnings included, for example, difficult to implement accounting standards (e.g., accounting for fair values), compensation schemes, and auditors yielding to

management pressures. Ineffective internal controls (together with aggressive accounting practices by management) might facilitate misappropriation of assets and misleading or fraudulent financial reporting, (such as that at WorldCom and Enron).

To strengthen the effectiveness of internal controls (and other corporate governance related matters), the Sarbanes-Oxley Act (SOX) was enacted in 2002. The SOX Act established the Public Company Accounting Oversight Board (PCAOB) to monitor the accounting industry to protect the interests of investors in public companies. In this regard, the PCAOB has issued several auditing Standards (AS1-AS15), and adopted some of the AICPA's auditing standards as interim standards. Specifically, Section 404 of the SOX Act requires the annual report of a public company to include management's assessment of the effectiveness of internal control over financial reporting (ICFR). PCAOB AS2, which came into effect in 2004, requires auditors to integrate an audit of financial statements with the audit of ICFR, and attest to and report on the assessment made by company management.

For 2004 fiscal year ends, over 2,500 public companies reported according to AS2. Of the reporting companies, approximately 15% reported one or more material internal control weaknesses that resulted in auditors issuing adverse opinions on ICFR (Foster et al., 2007). In 2007, PCAOB replaced AS2 with AS5 (which became effective for fiscal years ending on or after November 15, 2007) to make compliance with standards more efficient, e.g., by recommending a top-down approach to audit internal control (IC), amending definitions of material IC weaknesses, and not requiring auditors to report on management's assessment of internal control. This study examines financial reports from 2009, well after adoption of the SOX Act and PCAOB auditing standards, to provide insight into recent earnings management related actions, and whether the quality of financial reporting can be enhanced.

As expected, our analyses revealed that auditors expended more effort examining MICW companies than EIC companies; MICW companies with positive (income increasing) material abnormal accruals (MARA) were subjected to the highest level of audit scrutiny. We also found that companies with EIC exhibit as much or more MARA as those with MICW. (Other contributions to our understanding of auditing and accruals for MICW and EIC companies are included in Table 3.) We also recommend reporting changes to make the financial reporting process relatively more transparent. The remainder of the paper is organized as follows. Section II describes the role of audits in limiting earnings management and presents research questions. Section III describes the approach used to address research questions, data analyses and results. Concluding comments with suggestions to improve quality of audits and financial reporting are presented in Section IV.

## **II. ACCRUAL ACCOUNTING & EARNINGS MANAGEMENT**

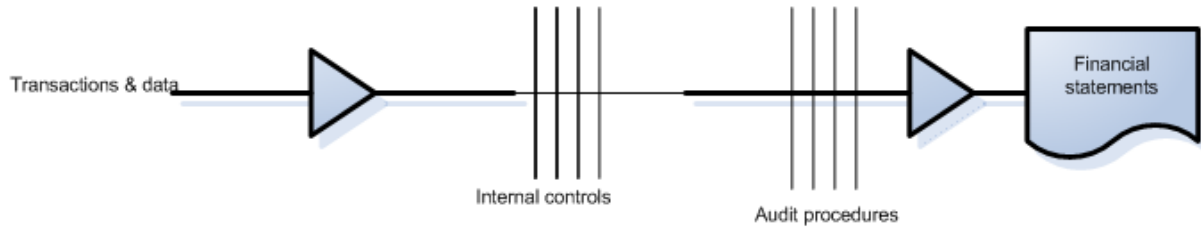
Management is responsible for implementing effective internal control over financial reporting. In addition, to improve the quality of accounting information for reporting, company managers frequently take steps to strengthen other governance related matters. For example, studies indicate that engaging experienced auditors for audits (Mansi et al., 2004; Myers et al., 2003) and appointing former audit partners to audit committees is likely to enhance the quality of financial reporting (Naiker and Sharma 2009). Generating good quality accounting information requires the joint efforts of management, the audit committee, and auditors.

### **Audits as a Deterrent to Earnings Management**

Irrespective of internal control effectiveness, financial statements audited in accordance with PCAOB standards and receiving a clean audit opinion should contain accounting accruals within the bounds of GAAP and be free of material misstatements. However, in the pre-PCAOB environment, auditors appear to have failed to follow prescribed standards in many audits. For example, the 2002-GAO's report (referred above) indicated that from January 2001, to February 2002, about 25% of accounting-related cases brought by the SEC involved accounting firms and certified public accountants (CPAs).

Auditors follow several steps to effectively plan and execute an integrated audit. One step requires evaluation of the effectiveness of internal control over financial reporting according to PCAOB AS5 to determine appropriate audit procedures. If controls are weak, auditors likely perform a more extensive audit by appropriately varying the nature, timing, and extent of audit procedures (and consequently charge higher audit fees) than when

internal controls are strong. Collectively, internal controls and audit procedures act as screens/filters to prevent, detect and appropriately rectify material misstatements, if any, to ensure that financial statements conform to GAAP (see figure/exhibit).



**Exhibit: Some Audit Steps for MICW and EIC Companies with Clean Opinion on Financial Statements**

| Some Audit Steps  | MICW companies                                | EIC companies                   | MICW compared to EIC                    |
|---|---|---------------------------------|---|
| After obtaining understanding and appropriately testing internal controls                             | Material internal control weaknesses exist    | Internal controls are effective |   |
| Auditor's opinion on internal control effectiveness   | Adverse                                       | Unqualified                     |   |
| CONTROL RISK (CR) ASSESSED for audit of financial statements  | At a higher level                             | At a lower level                |   |
| Substantive procedures performed to verify assertions at transactions, accounts and disclosure levels | At a higher level to compensate for higher CR | At a lower level                | More audit effort and higher audit fees |
| Evaluation of Accounting accruals   | According to GAAP                             | According to GAAP               | No difference                           |
| Abnormal revenue accrual exceeding materiality  |   |                                 | No difference                           |
| Overall evaluation of financial statements and audit opinion  | Fair in all material respects                 | Fair in all material respects   | Same opinion                            |

Accrual-accounting, which includes estimates and allocations, by its very nature is likely to allow swings (back and forth) in earnings that are not planned by management and are acceptable to auditors, within certain bounds of materiality. Effective audits are likely to identify/prevent management from incorporating abnormal-accruals that exceed materiality into the financial statements. A previous study found that audits did limit earnings management and that most earnings management occurred within the boundaries of GAAP (Butler et al. 2004). Consequently, a reasonable question is whether the SOX Act and PCAOB oversight limited earnings management through accounting accruals manipulation by public companies receiving clean audit opinions, irrespective of whether the company has effective internal controls (EIC) or material internal control weaknesses (MICW).

This study is designed to first verify whether companies with material internal control weaknesses (MICW) receiving unqualified audit opinions on financial statements are indeed subjected to more audit scrutiny (using audit fees as a proxy) compared to companies with effective internal controls receiving unqualified audit opinions on financial statements. Second, we examine whether internal control effectiveness influences earnings management. Because MICW companies are likely to be subjected to more audit scrutiny than EIC companies to obtain the level of assurance necessary to receive 'clean' audit opinions, all accruals are likely to be within the bounds of

materiality; no difference in abnormal accounting accruals between MICW and EIC companies is likely to be found. To examine these two issues, we present the following Research Questions:

- RQ1:** For companies receiving clean/unqualified audit reports on financial statements, are audit fees significantly higher for companies with MICW compared to those with EIC?
- RQ2:** For companies receiving clean/unqualified audit reports on financial statements, do abnormal revenue accruals exceeding materiality or material abnormal revenue accruals (MARA) significantly differ between companies with material internal control weaknesses (MICW) and those with effective internal controls (EIC)?

### **III. DATA ANALYSES & RESULTS**

To address the research questions, we examined financial data for a sample of EIC and MICW-companies based on 2009 annual reports<sup>1</sup>. We analyzed abnormal accruals (particularly revenue accruals) exceeding a quantitative materiality amount (e.g., 1% of assets) for these companies.

#### **Sample (Accrual data for 81 MICW and comparable 81 EIC companies)**

We randomly selected a sample of 81 companies with material internal control weaknesses (MICW) receiving an adverse auditor's report on the effectiveness of internal control over financial reporting, but an unqualified report on the financial statements for fiscal year 2009. We matched these MICW companies by total assets and industry with 81 companies receiving clean audit reports on both the effectiveness of internal control (EIC) and financial statements for fiscal year 2009. As indicated earlier, the (nature, timing, and extent of) audit procedures performed should vary depending on the relative effectiveness of internal control. Details of analyses and results are discussed next.

#### **Audit fees as a proxy for audit effort and estimating material abnormal revenue accruals**

Audit and audit related fees should reflect auditors' efforts applied in audit engagements. We use audit fees as proxy for audit effort. While audit fees directly relate to integrated audits, audit related fees may directly or indirectly relate to integrated audits. Reporting of audit fees in proxy statements appears inconsistent across companies<sup>2</sup>. Consequently, we separately analyze audit fees and audit *plus* audit-related fees (AU+ARfee) of MICW and EIC companies.

##### **A. Materiality**

For audit planning, quantitative materiality is based on "rules of thumb" such as: 5%-10% of pre-tax income; ½% to 1% of total assets or total revenues; or a sliding scale of percentages on the larger of total revenues or total assets (SEC 1999; AICPA 2001). For materiality, we use the amount of total assets (at year-end), because total assets are relatively more stable than earnings. Also, earnings could significantly fluctuate and the use of a loss would not be appropriate for establishing quantitative materiality. The following table illustrates the differences in materiality amount based on (i) sliding scale, and (ii) 1% of total assets:

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<sup>1</sup>Also, we examined a sample of financial statements for fiscal year 2004 soon after the implementation of AS2.

<sup>2</sup> Some companies report no audit related fees, while others report substantial amounts of audit related fees. Companies reporting audit related fees indicated that these fees relate to a variety of tasks undertaken by auditors in addition to the audit of financial statements including: audit of internal control over financial reporting; services related to consultations on internal control over financial reporting; attestation services related to operating expenses and special procedures related to regulatory SEC filings; and audits of subsidiaries and audits or reviews of related financial statements such as employee benefit plans.

| Larger of total revenues or total assets (assumed total assets are larger) | AICPA sliding scale based Materiality as % of total assets | Materiality amount as per AICPA's sliding scale table | Materiality amount based on 1% of total assets |
|--|--|---|--|
| \$1,000,000  | 1.84%  | \$18,400  | \$10,000                                       |
| \$10,000,000   | 0.855%   | \$85,500  | \$100,000                                      |
| \$100,000,000  | 0.396%   | \$396,000   | \$1,000,000                                    |
| \$300,000,000  | 0.275%   | \$826,000   | \$3,000,000                                    |
| \$1,000,000,000  | 0.184%   | \$1,840,000   | \$10,000,000                                   |

The percentages of the base for materiality from the sliding scale declines as the size of assets or revenues increases and would be relatively small for public companies with even a moderate level of assets or sales, such as \$10 million or more. For example, materiality using the sliding scale for a company with \$10 million of assets would be 0.855% of assets (or \$ 85,500). Consequently, for companies with the larger of total revenues or total assets ranging from \$10 million to \$1 billion (or more), an auditor's materiality threshold could range from a high of 0.855% to a low of 0.184% of the base (assets or revenues) amount. An auditor might establish a planning-stage materiality based on the sliding scale (e.g., less than 1% of assets), but for evaluation of uncorrected misstatements (individually or in the aggregate) might increase the bounds of materiality to 1% of total assets. Consequently, we use 1% of total assets (the upper bound of materiality) to establish a quantitative amount for materiality for comparison with estimated abnormal revenue-accrual.

#### B. *Estimating material abnormal revenue-accruals (MARA)*

Although accounting-accruals could relate to revenue, or expenses (or a combination), for data analyses we focus on revenue-related accruals<sup>3</sup>. Estimating abnormal revenue-accrual might be relatively more reliable than the other abnormal accrual estimation methods. A recent study (Stubben 2010) using extensive simulations examined the effectiveness (robustness) of various existing "accrual models" that are used to estimate abnormal (revenue and expense) accruals when examining earnings management-related issues. The study found that a revenue-based model better identified earnings management (based on abnormal revenue-accruals) than traditional models used in earnings management literature based on overall accruals.

Also, the 2002 GAO report (referred to above) that analyzed 919 restatements reported by 845 companies from 1997 to 2002 indicated that revenue recognition issues were the primary reason for restatement each year--almost 38 percent of the restatements. Also, the GAO reported that restatements involving revenue recognition led to greater market losses (estimated at over 50% more) than other restatement-types. To address a large number of revenue recognition related issues encountered by companies, the SEC issued Staff Accounting Bulletins SAB No. 101 A&B (2000). Consequently, the accrual model used for this study focuses on revenues and accounts receivable.

The revenue-model used to estimate abnormal revenue accruals is based on the expectation that changes in accounts receivable generally result from changes in revenue. The expected change in accounts receivable (the dependent variable) for a company is estimated using a regression model run on all companies within its industry. Company revenue changes in the previous year serve as independent variables, particularly the change in revenue in the fourth quarter compared to the fourth quarter of the previous year.

$$\text{Model: } \Delta AR = a + b_1 \Delta RI\_3 + b_2 \Delta R4 + e$$

where:

$\Delta AR$  = reported accounts receivable at FY-end date (e.g., 12/31/2009) less reported accounts receivable at preceding FY-end (e.g., 12/31/2008), [i.e., change in accounts receivable during the year]

$\Delta RI\_3$  = Sales from first three quarters of FY 2009 less sales from first three quarters of FY 2008, and

$\Delta R4$  = Sales from last quarter of FY 2009 less sales from last quarter of FY 2008.

<sup>3</sup> Using the same sample we examined abnormal accounting accruals comprising of both revenue and expenses in combination, the conclusions are substantially the same as revenue related accruals discussed in this paper. We are not including the details regarding accruals of both revenue and expenses in combination.



The difference between this estimate and the actual change in accounts receivable reported in the financial statements (residual from the equation) represents the estimated abnormal revenue-accrual (ARA).

The difference between the estimated abnormal revenue-accrual (ARA) and materiality amount based on 1% of total assets constitutes the material abnormal revenue-accrual (MARA). Ideally, for all audited financial statements receiving a clean audit opinion, ARA should be within the bounds of materiality (and therefore MARA should be zero). However, ARA could sometimes be outside the bounds of materiality resulting in a MARA. A positive MARA results when ARA exceeds materiality, thereby overstating income (income increasing MARA). In contrast, a negative MARA results when the absolute value of a negative ARA exceeds the materiality level ( $|-ARA| > \text{materiality}$ ) thereby understating income (income decreasing MARA).

## Results of analyses

Descriptive data are shown in Table 1, separately in Panel-A for companies with effective internal controls (EIC), and in Panel-B for companies with material internal control weaknesses (MICW). Within each panel, averages are provided for several measures by MARA category (observations with positive MARA, negative MARA, and those with ARA within materiality). Columns 3 and 4 contain the average sales and year-end assets, respectively, of companies in each category. Columns 5 and 6 show the average materiality limit (1% of total assets) and estimated ARA, respectively. Columns 7 and 8 express the average MARA and MARA as a percent of assets, respectively, for the companies exhibiting positive and negative MARA. Audit fees as a percentage of year-end total assets, average total assets, and sales are shown under columns 9, 10, and 11 respectively, and similar percentages for AU+ARfee are included under the last three columns 12, 13, and 14.

| TABLE 1   |                    |   |                    |                                  |  |  |   |                               |        |        |  |        |        |
|---|--------------------|---|--------------------|----------------------------------|--|--|---|-------------------------------|--------|--------|--|--------|--------|
| 2009 -- Audit Fees, 'Audit & audit related fees', Effective vs. Ineffective Controls, and Abnormal Revenue Accruals |                    |   |                    |                                  |  |  |   |                               |        |        |  |        |        |
| Revenue, Assets, Materiality, Abnormal revenue accruals (ARA), Material-ARA, MARA % of assets                       |                    |   |                    |                                  |  |  |   |                               |        |        |  |        |        |
|   |                    | Mean/Avg<br>Sales   | Mean/Avg<br>Assets | Materiality<br>: 1% of<br>Assets | Mean/Avg<br>Estimated<br>Abnormal<br>revenue<br>accrual<br>(ARA) | Mean/Avg<br>Abn. Accr.<br>Exceeding<br>Materiality<br>(MARA) | Material<br>abnormal<br>revenue<br>accrual<br>(MARA) %<br>of assets | Audit fees as a percentage of |        |        | Audit and audit related fees as<br>percentage of |        |        |
|   |                    |   |                    |                                  |  |  |   | AT*                           | ATT**  | Sales  | AT*  | ATT**  | Sales  |
| Panle A: With effective<br>internal controls (EIC)  |                    | IN MILLIONS OF \$   |                    |                                  |  |  |   | %                             | %      | %      | %  | %      | %      |
| Column 1  | 2                  | 3   | 4                  | 5                                | 6  | 7  | 8   | 9                             | 10     | 11     | 12   | 13     | 14     |
| # of<br>entities  | Accruals Type      |   |                    |                                  |  |  |   |                               |        |        |  |        |        |
| 35  | Positive Material  | 304.23  | 426.40             | 4.26                             | 17.54  | 13.27  | 8.022   | 0.397%                        | 0.414% | 0.545% | 0.422%   | 0.434% | 0.578% |
| 24  | Negative Material  | 4,323.22  | 5,717.98           | 57.18                            | -99.84   | -42.66   | -5.369  | 0.296%                        | 0.264% | 0.349% | 0.298%   | 0.266% | 0.351% |
| 22  | Within materiality | 1,701.91  | 1,757.00           | 17.57                            | 1.51   |  |   | 0.207%                        | 0.208% | 0.310% | 0.219%   | 0.220% | 0.323% |
| 81  | Total              | 1,874.66  | 2,355.67           |                                  |  |  |   | 0.315%                        | 0.313% | 0.423% | 0.330%   | 0.329% | 0.442% |
| Panel B: With material<br>Internal control weakness<br>(MICW)   |                    |   |                    |                                  |  |  |   |                               |        |        |  |        |        |
| 33  | Positive Material  | 3,531.03  | 4,527.41           | 45.27                            | 197.64   | 152.37   | 5.300   | 0.749%                        | 0.658% | 1.548% | 0.820%   | 0.729% | 1.672% |
| 23  | Negative Material  | 353.93  | 484.25             | 4.84                             | -21.79   | -16.95   | -5.807  | 0.565%                        | 0.554% | 0.888% | 0.655%   | 0.658% | 1.088% |
| 25  | Within materiality | 1,072.09  | 1,842.98           | 18.43                            | -0.581   |  |   | 0.294%                        | 0.305% | 0.572% | 0.315%   | 0.323% | 0.615% |
| 81  | Total              | 1,869.96  | 2,550.82           |                                  |  |  |   | 0.556%                        | 0.520% | 1.059% | 0.617%   | 0.584% | 1.180% |
| *AT   | Assets at year end | Note: Abnormal Revenue Accruals (ARA) are based on data from fiscal years 2008 & 2009 |                    |                                  |  |  |   |                               |        |        |  |        |        |
| **ATT   | Average assets     |   |                    |                                  |  |  |   |                               |        |        |  |        |        |

## Audit fees

As indicated above, the last six columns in Table 1 provide audit fees (columns 9 -11), and audit *plus* audit related fees (columns 12-14) as a percentage of total assets and sales for EIC and MICW companies by MARA category. Our analysis supports the contention that auditors likely exert more effort to obtain persuasive evidence to achieve the same level of assurance for audits of MICW companies as that of EIC companies, and, consequently, charge higher audit fees for audits of MICW companies. Table 2, reports p-values of t-tests for comparisons of means of MICW and EIC companies for analysis items from Table 1 including AU+ARfees as a percent of assets (per column 12, Table 1) and as a percent of sales (column 14, Table 1) for all companies (81 EIC and 81 MICW), those with positive MARA (35 EIC and 33 MICW), and those with negative MARA (24 EIC and 23 MICW). (Note: t-tests for comparisons of mean ratings between EIC and MICW companies for other audit fee related data included under columns 9, 10, 11, & 13 in Table 1 are similar to those for audit and audit related fees for which p-values are given in Table 2).

| TABLE 2: P-values of t-tests for comparing some means of EIC & MICW companies  |                                  |         |                                  |         |                   |
|--|----------------------------------|---------|----------------------------------|---------|-------------------|
|  | EIC (Effective Internal Control) |         | MICW (Material Internal control) |         | p-value of t-test |
| AUDIT & AUDIT RELATED FEES % OF  | Size (n)                         |         | Size (n)                         |         |                   |
| Year End Assets for all companies  | 81                               | 0.330%  | 81                               | 0.617%  | 0.001 *           |
| Sales for all companies  | 81                               | 0.442%  | 81                               | 1.180%  | 0.001 *           |
| Year End Assets for companies with POSITIVE MARA   | 35                               | 0.442%  | 33                               | 0.820%  | 0.02 *            |
| Sales for all companies with POSITIVE MARA   | 35                               | 0.578%  | 33                               | 1.672%  | 0.03 *            |
| Year End Assets for companies with NEGATIVE MARA   | 24                               | 0.298%  | 23                               | 0.655%  | 0.02 *            |
| Sales for all companies with NEGATIVE MARA   | 24                               | 0.351%  | 23                               | 1.088%  | 0.03 *            |
| <b>Material Abnormal Accrual (MARA)</b>  |                                  |         |                                  |         |                   |
| <b>% of assets</b>   |                                  |         |                                  |         |                   |
| Positive MARA  | 35                               | 8.022%  | 33                               | 5.300%  | 0.18 ns           |
| Negative MARA  | 24                               | -5.369% | 23                               | -5.807% | 0.84 ns           |
| * Significant at p<0.05.   |                                  |         |                                  |         |                   |
| ns: Differences between means not significant  |                                  |         |                                  |         |                   |
| NOTE 1: Relationships for other audit fees per columns 9, 10, 11 & 13, Table 2 are similar to those for audit and audit related fees for which p-values are given above. Therefore, p-values for audit fees under these columns are not given. |                                  |         |                                  |         |                   |
| NOTE 2: MARAs are not significant, suggesting that no difference in material abnormal revenue accrual whether company has controls with material weaknesses (compensated by higher audit fees) or effective internal controls                  |                                  |         |                                  |         |                   |

The average audit and audit related fees (AU+ARfee) as a percent of year end assets (column 12, Table 1) for the 81 MICW companies (under Panel B) at 0.617% are significantly higher ( $p < 0.001$ ) than AU+ARfee as percent of year end assets for the 81 EIC companies (under Panel A) at 0.33%. AU+ARfee as percent of sales (column 14) for all MICW companies at 1.18% is also significantly ( $p < 0.001$ ) higher compared to those of all 81 EIC companies at 0.442%. These results suggest, that MICW companies are subjected to more audit effort (audit fees as a proxy), addressing Research Question #1. However, the impact of AU+ARfee of MICW and EIC companies could differ depending on whether MARA was positive or negative.

## Material abnormal accruals (MARA)

As mentioned previously, we anticipate no substantive difference between MARAs based on our sample of MICW and EIC companies that received unqualified audit opinions; when issuing an unqualified audit opinion, the auditor should obtain sufficient appropriate audit evidence to obtain a reasonable degree of assurance that the financial statements are free of material misstatements irrespective of whether the company has effective internal control (EIC) or material internal control weaknesses (MICW). As evidenced in our analysis of audit and audit



related fees, auditors would perform more extensive audit procedures on MICW companies to compensate for internal control weaknesses.

As can be seen in Table 1, the number of companies identified as having MARA slightly differs between EIC (35+24= 59) and MICW-companies (33+23 = 56). Overall, about 29% (22 EIC companies + 25 MICW = 47 out of 162) of sampled companies have accruals that are within the bounds of materiality, indicating presence of no earnings management in these companies. The remaining 71% (59 EIC + 56 MICW = 115 out of 162) of companies have either positive (income increasing) MARA or negative (income decreasing) MARA. If materiality is lowered from 1% to ½% of ending assets, for example, the number of companies (22 or 29%) that have accruals within the bounds of materiality would shrink further, thereby increasing the number of companies with positive or negative MARA. However, auditors are likely to accept a maximum amount of uncorrected misstatements in financial statements based on judgment. Here, we use 1% of assets as the maximum amount for uncorrected misstatements.

The last two rows of Table 2 report p-values of t-tests for comparisons of means between MICW and EIC companies for MARA. The average positive MARA of the 35 EIC-companies at 8.022% of assets (per column 8-Panel A) is relatively higher than the average positive MARA for the 33 MICW companies at 5.3% of assets. However, the difference in MARA as a percentage of assets is not significant ( $p < 0.18$ ). Although the difference is not significant, a lower positive MARA for MICW companies at 5.3% (compared to that of EIC companies at 8.022%) could reflect MICW companies being subjected to more audit scrutiny compared to EIC companies. The average negative MARA of 24 EIC-companies at -5.37% of assets does not differ substantively ( $p < 0.84$ ) from the average negative MARA of 23 MICW companies at -5.8% of assets. Thus, results for the differences in both positive and negative MARA as percent of assets between MICW and EIC companies suggest little difference between the groups, addressing Research Question #2.

However, as indicated earlier 71% (115) of the 162 companies in our sample, show either positive (income increasing) MARA or negative MARA. Such a large proportion (71%) of companies with MARA indicates the likely existence of some level of earnings management in the post-SOX environment. Table 3 summarizes important findings from our data analyses.

**Table 3: Summary of Results of Data Analyses**

|    |  |
|----|--|
| 1. | MICW companies have a lower average positive (income increasing) MARA (5.3%), but a larger average negative (income decreasing) MARA (5.8%) compared to EIC companies' average positive MARA (8%) and average negative MARA (5.4%). These results indicate that audits appear to be tighter in connection with audits of MICW companies to ensure that they do not overstate earnings.   |
| 2. | Companies with material internal control weaknesses (MICW) elicit substantially more audit scrutiny (based on audit fees as proxy) than companies with effective internal controls (EIC). (Table 2, Panel A vs. Panel B).  |
| 3. | Of the MICW companies, those with income increasing material abnormal accruals (MARA) are subjected to the highest level of audit scrutiny, suggesting auditors are most concerned when accruals for MICW companies tend to increase income.   |
| 4. | Irrespective of MICW or EIC, when auditors issue an unqualified audit opinion on the financial statements, they should have obtained high levels of assurance that the financial statements are free of material misstatements. As expected, we found no substantive difference in accrual quality after controlling for materiality (material abnormal accrual), irrespective of whether internal controls are effective (EIC companies) or ineffective (MICW companies). |
| 5. | Results from the more recent data used in this study (compared to prior studies) indicate that PCAOB standards (e.g., relating to internal control over financial reporting and other standards) and PCAOB inspections appear to have enhanced the quality of audits and financial statements.   |

Collectively, these results indicate that MICW companies are subjected to more audit scrutiny to compensate for weak controls (and higher control risk level) than EIC companies, addressing Research Question #1. Consequently, when issuing “clean” audit opinions on financial statements, auditors are required to obtain a reasonable degree of assurance to support an unqualified audit opinion, irrespective of MICW or EIC companies. Therefore, abnormal accruals, if any, between MICW and EIC should not differ (addressing Research Question #2)<sup>4</sup>.

<sup>4</sup> We analyzed 2004 annual reports and audit fees related data for 78 EIC and 78-MICW companies (soon after the adoption of PCAOB auditing standards), which yielded similar results to those we obtained from our analyses of data based on 2009-annual reports.

## **Extensions of prior research**

The above analyses are based on two improvements to most prior research: (i) computing abnormal revenue accrual (ARA) using the revenue-model described earlier, which is considered relatively more robust than other accrual models, and (ii) computing material abnormal accrual (MARA) based on a materiality threshold of 1% of assets. However, the results of our analyses should be interpreted with caution, because (a) the revenue-model may not accurately generate an estimated abnormal revenue accrual (ARA) that would be defined as “abnormal” by financial statement preparers and users, and/or (b) the materiality threshold of 1% of assets used for computing MARAs may be too small, thereby producing excessive positive/negative MARA. As indicated earlier, if financial statements receive clean audit opinion, ARA should then theoretically be within the bounds of materiality.

## **IV. CONCLUSIONS AND RECOMMENDATIONS TO IMPROVE TRANSPARENCY OF FINANCIAL STATEMENTS**

Prior studies (based on pre-SOX data) indicated that internal control weaknesses adversely influenced the quality of accruals, suggesting that MICW companies could more easily manage earnings. In contrast, our analyses indicate no significant difference in the quality of revenue-accruals between EIC and MICW companies, suggesting the PCAOB’s positive influence (see Table 1).

### **PCAOB’s Positive Impact**

Our findings relating to revenue-accruals for MICW companies indicate a potentially positive impact of PCAOB regulation on audit quality and the quality of revenue-accruals, particularly for MICW companies. In addition to PCAOB standards, improved audit quality may have resulted from the PCAOB’s periodic inspection of audits. For example, a review of a few “Settled Disciplinary Orders” of the PCAOB (effective between May 24, 2005 and May 22, 2012)<sup>5</sup>, revealed many audit deficiencies, including:

- Auditor failed to audit accounts which were flagged as susceptible to material misstatements
- Failure to perform procedures adequately for product returns which were underestimated (thereby overstating revenue)
- Auditor allowed immediate recognition of loan origination fee and mortgage fee instead of requiring management to amortize those over the life of loan
- Auditor increased the planned (tolerable) materiality by approximately 50% (from 5% to 7½% of pre-tax income) to permit overstatement of earnings.

### **Implications and Recommended Reporting Changes**

Despite the positive impact of the SOX Act and PCAOB standards and inspections, our analyses of financial statements receiving unqualified audit opinions indicate some level of earnings management. To mitigate earnings management, regulators should consider the proposal (containing nine-points) put forth by the former SEC Chairman, Arthur Levitt, Jr., which included the auditor’s use of the materiality concept (JofA 1998). Auditors can change the upper-bound of the range used for materiality to evaluate uncorrected misstatements. Consequently, auditors might voluntarily, or due to pressure from company management, unjustifiably extend the upper-bounds of tolerable materiality and allow an otherwise material uncorrected misstatement into the financial statements.

The auditor is required to document all uncorrected misstatements that are not “clearly trivial” (PCAOB AS14) and communicate uncorrected misstatements to those charged with governance (PCAOB Interim Standard AU 380); but, these uncorrected misstatements are not disclosed in the financial statements. However, these uncorrected misstatements could be material from a users’ perspective. As Mr. Levitt indicated, missing an earnings projection by a penny, for example, can result in a loss of millions of dollars in market capitalization. Consequently,

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<sup>5</sup> For the PCAOB’s ‘Settled Disciplinary Orders’ reached with registered firms or their associated persons, visit <http://pcaobus.org/Enforcement/Decisions/Pages/default.aspx>

non-disclosure of uncorrected misstatements might cause an “information-gap” between users of accounting information and management, the information providers.

A suggested approach to narrow (if not close) this “information-gap” is to disclose uncorrected (quantitative and qualitative) misstatements even if such misstatements are considered immaterial by auditors. Management should be required to disclose in sufficient detail (by way of a separate footnote or pro forma statements) known and likely uncorrected misstatements affecting income, assets, liabilities, and stockholders’ equity for current and prior periods. Further, Mr. Levitt indicated that SEC review and enforcement teams focus on companies with red flags that indicate potential for managing earnings. When enforcement teams are not permitted to examine companies’ red flag items, such situations should be disclosed to financial statements users. For example, if PCAOB inspection teams are not permitted to inspect auditors’ work, such situations should be adequately and immediately disclosed. Examples would include, the PCAOB’s inability to examine audit documentation relating to some foreign entities’ revenue, assets, and equity.

Mr. Levitt’s nine-point plan also included a need for a quick action by standard setters where current accounting and/or auditing standards are inadequate. For example, management and auditors should be required to identify situations when specific accounting standards are either inadequate or alternative application of the standards would result in substantially different results (e.g., situations involving fair values). In such situations, management should provide a description of the alternative application and its resulting outcome/implication for users in a footnote or pro-forma statement. Also, the PCAOB should require an explanatory paragraph after the opinion paragraph in the auditor’s report, when appropriate, to draw users’ attention to footnotes or pro forma information included in the financial statements disclosing uncorrected misstatements.

The Advisory Committee on the Auditing Profession to the US Department of the Treasury also addressed the auditor’s report by recommending that the PCAOB and SEC clarify the auditor’s role in detecting fraud under current auditing standards (The U.S. Department of the Treasury 2008). In this regard, the PCAOB could consider adapting an audit report format similar to the format recommended by the AICPA’s clarified auditing standard AU-C Section 700. The clarified audit report format incorporates management’s responsibility for implementing controls to detect material misstatements due to fraud or error, and auditors’ responsibility for designing audit procedures that include assessment of the risks of material misstatement of the financial statements, whether due to fraud or error.

The PCAOB should consider incorporating wording of auditors’ responsibility for fraud detection into the auditor’s report.<sup>6</sup> Recent empirical studies based on perceptions of auditors and users, found that users prefer wording of the auditor’s report to include the auditor’s responsibility for fraud detection (Foster et. al., 2011; Gist, et al. 2005). Following through with the recommendations of former SEC Commissioner Levitt and the Advisory Committee on the Auditing Profession would enhance the information content of financial reports and narrow the information gap between providers and users of information.

## **ACKNOWLEDGEMENT**

The authors gratefully acknowledge the University of Louisville, College of Business for providing a Research Incentive Grant that supported work on this paper.

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<sup>6</sup> The PCAOB recently held a meeting on November 15-16, 2012 to discuss (among other matters) the format and content of the standard Auditor’s Report.

[http://pcaobus.org/News/Releases/Pages/10262012\\_Release\\_SAG.aspx](http://pcaobus.org/News/Releases/Pages/10262012_Release_SAG.aspx)

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**NOTES**